

## REMARKS

Claims 23–44 are pending, were rejected. Claims 32 and 34 have been cancelled in a contemporaneously filed Amendment After Final Rejection. Claims 23–31, 33, and 35–44 remain pending and are appealed. Reconsideration of these claims in a Pre-Appeal Brief Conference is requested.

The Examiner has rejected all pending independent claims (*i.e.*, claims 23 and 38) under 35 U.S.C. § 103(a) as obvious over Japanese Patent Publication 10-042264 by Nakamura (“Nakamura”) in view of U.S. Patent 5,335,011 to Addeo et al. (“Addeo”). However, the combination of Nakamura and Addeo is improper. Reconsideration and withdrawal of the rejection is therefore requested.

### **The Cited References**

Nakamura discloses a videoconference system that includes two microphone-speaker combinations identified by reference numerals 3 and 4. Nakamura, Abstract. The magnitude difference between the voice signals received by the first and second microphones is used to point the camera to a conference participant who is currently speaking. *Id.* Specifically, the system detects a difference in the sound level (magnitude) detected by the microphones, uses this difference to determine a bearing (angle) to the speaker, and rotates the camera to this angle. *Id.* at ¶ 0008. The microphones and camera are carried in the same frame. *Id.* at ¶ 0009, Fig. 3. Therefore, when the camera is pointed directly at the speaker, there will no longer be a difference in the magnitude of the voice signals received by the two microphones.

Examiner concedes that Nakamura does not disclose an audio source position signal, produced from signals received from a plurality of microphones, that is transmitted to a remote endpoint to allow the remote endpoint to reproduce the sound in accordance with the position of the speaker, which is required by each of Applicant’s pending claims. Examiner proposes Addeo to supply the missing position signal limitation. However, one skilled in the art would not combine Addeo with Nakamura because there is no motivation to do so. Because one skilled in the art would not be motivated to combine Addeo with Nakamura, it is not necessary to address whether the position signal of Addeo meets the limitations of Applicant’s pending claims, nor is it necessary to address whether there are other limitations not met by the proposed combination, although Applicant reserves the right to do so at a later time.

### **Clear Error: The Combination of Nakamura and Addeo Is Improper.**

A *prima facie* case of obviousness requires among other things, suggestion or motivation to combine the references. See MPEP § 2142. Additionally, the suggestion of motivation must be “either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” MPEP § 2143.01(I). The proper inquiry is “whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.” *Id.* (citing *In re Fulton*, 391 F.3d 1195, 1200–01, 73 U.S.P.Q.2d 1142, 1145–46 (Fed. Cir. 2004)). That is, there must be some “objective reason to combine the teachings of the references.” MPEP § 2143.01(IV). However, in the present case, there is no suggestion, motivation, or objective reason to combine Nakamura and Addeo.

The Federal Circuit has held that if a proposed modification would render the prior art unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. MPEP § 2143.01(V) (citing *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984)). However, adding the transmission of an audio position signal, as allegedly taught by Addeo, to Nakamura would do precisely that.

A well known problem with prior art videoconferencing systems is the difficulty in obtaining realistic interaction when there are multiple speakers at the far end of a videoconference. Nakamura addresses this problem by providing a pan-tilt-zoom camera that automatically centers on the active speaker using a difference in the magnitude of a sound signal received by a pair of microphones that are arranged in a fixed relationship with the camera. Thus, the intended purpose of Nakamura is to provide a centered image of the active speaker in a videoconference. To simplify, Nakamura provides a centered video image to match the audio image.

Conversely, Addeo proposes to achieve a degree of realism by providing a “static” (*i.e.*, not changing in pan, tilt, or zoom) video image, along with an audio signal and some form of positioning signal. The receiving endpoint can then weight the audio playback from a plurality of speakers according to the positioning signal so as to cause a perception that the sound is coming from a particular direction corresponding to the position of the speaker in the “static” video image. To simplify, Addeo provides an off-center audio image to match the video image.

One skilled in the art would not be motivated to combine these two concepts, as they are two fundamentally different approaches to enhancing the realism of a video conference. In the

context of Nakamura, adopting the operation mode of Addeo would frustrate the fundamental purpose of Nakamura, which is to center the camera (and thus the transmitted video image) on the active speaker. Furthermore, if used in conjunction with Nakamura, the audio position signal disclosed in Addeo would not indicate any useful information because the camera would be centered on the active speaker.

Furthermore, the Federal Circuit and its predecessors have held that “If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teaching of the references are not sufficient to render the claims *prima facie* obvious. MPEP § 2143.02(VI) (*citing In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959)). However, the proposed combination of Nakamura and Addeo would do exactly that.

As noted, Nakamura’s principle of operation is to use a difference in the magnitude of audio signals received by two microphones arranged in a fixed location relative to a camera to automatically steer the camera toward a videoconference participant who is currently speaking. Conversely, Addeo’s principle of operation is to provide an audio signal and some form of audio position signal that allows a receiver to match the perceived location of an audio signal to match the position of a currently speaking videoconference participant in a “static” video. Incorporating the transmitted position signal disclosed in Addeo would necessitate a change in the fundamental mode of operation of Nakamura, *i.e.*, a change from transmitting a video image centered on the currently speaking conference participant, to transmitting an off-center sound image to correspond to the off-center image of the currently speaking conference participant. Thus, there can be no motivation to combine

Therefore, the combination of Nakamura and Addeo is improper because there is no suggestion or motivation to combine the references, and thus Examiner’s rejection is clearly in error.

## **Conclusion**

For at least the reasons stated above, each and every pending claim is allowable over the cited art of record, and Examiner’s failure to issue a notice of allowance of these claims amounts to clear error.

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